The Vegetables Eaten with the Rice in Two Typical Malay Households of the Neighbourhood of Telok Anson, Southern Perak

By I. H. Burkill, m.a., f.l.s.

At a remote time Malaysia was tenanted throughout by Negritos who cultivated nothing, living entirely by food-gathering. Then came what may be likened to a leisurely bombardment, as Austronesians, seeking new homes, came out of Asia and made and maintained better establishments by a greater ability than the Negritos had. Students of prehistory suggest 2500 B.C. as a likely time for the beginning of the bombardment; and it is certain that it had no precise termination within the B.C. centuries. It brought habits of tilling and a forethought for the food of the morrow, with the raising of cultivated plants and domesticated animals. We cannot feel that we know the order of their coming without knowing what the Asiatic sources had to give at any particular time; and it happens that we know very little of this. Most certainly the early history of agriculture and horticulture in Malaya is Indo-chinese. The Austronesians came by sea,—therefore from coastal villages,—and set themselves to found new coastal villages. For routes some might use convenient coasts, taking advantage of those, the two sides of the Malay Peninsula, with north to south trends to avoid the open sea; but sooner or later the open sea had to be faced, and clearly was faced with a confidence coming from the navigators having so perfected their outrigger canoes as little to fear it. It is believed that the outrigger canoe was perfected in rivermouths as those of the Mekong and the mouths of rivers entering the Gulf of Siam; and it has been postulated that there was a fringe of sea-minded folk from the Irrawaddy to Tonkin who provided the bombardment, some of them better mariners than others. The essential proteins of the food of all came from the fish that they caught; and after migration continued to catch. Their new locations had to resemble the old in providing fish. Metals could not have reached these people at 2500 B.C. and clearing forest would be a difficulty,

neither in their original homes nor their new villages to be faced lightly. Neolithic cultivators else where took advantage of lake margins, silt of annually swollen rivers and conditions generally that forbad tree-growth; but Nature was grudging of conditions not favouring trees both in Southern Indo-China and Malaysia, and neither the pre-proto-Malays of 2500 B.C. nor the Proto-Malays who issued from them can have had deep roots on land; but if they had the habit of taking advantage of cultivable spots, that is to say, if they had habits of cultivation, the advance that they brought was tremendous, and one which could not possibly be arrested at the adoption of a single plant. I suggest that the first cultivation was a swamp-cultivation with Colocasia deliberately transplanted and rice broadcast. Then instead of the one hundred per cent food-gathering of the Negritos there would be an 80 or a 70 per cent food-gathering. It was my desire to know to what percentage it has now been reduced that led me to the collection of the information here given.

A belief that fisher folk came first does not preclude theories that now and then landsmen joined themselves to the fisher folk. Mohammed's Arabs feared the sea and Mohamed warned them against it; but when the Arabs had subjugated the Persians they used persian sailors to bring to them dominion of the Indian Ocean. Like associations of similar opposites in the bombardment of Malaysia would bring favourable racial admixtures to favourable not unhealthy fertile spots, and account for the emergence of Deutero-Malays out of Proto-Malays as well as for many of the innumerable racial inequalities of the Islands.

My Malay householders belong to the Deutero-Malays among whom the greatest reduction of the percentage of food gathered is to be expected: of the vegetable foods eaten with their two rice-meals of the day I find the percentage 16.

I began in the hope of contrasting town resources with village resources; but I have not carried the first through. The history of the research into the village resources is this. By the kindness of Professor R. E. Holttum and Mr. E. J. H. Berwick of the Agricultural Department two men were found for me willing to make monthly returns of the food that their households ate with rice at mid-day breakfast and supper. Mr. E. F. Allen, who succeeded Mr. Berwick as Agricultural Officer Perak South at Telok Anson, supervised the men; and through his office I received their returns,

which had been kept in jawi characters, but were typed for me in roman characters. It was for me to identify the plants named and when a name puzzled me to ask for help which I got most generously from Mr. Allen, Professor Holttum and Mr. Henderson, the Director of Gardens, Singapore. I offer my most grateful thanks to them and also to the two Malays for their consistent patient recording. These do not live under identical conditions. One cultivates 8 acres in a typical Malay village. He has been to Mecca and has the honoured title of haji. His household consists of nine persons including himself. The other holds about 18 acres in an irrigation settlement and has a market near by. His household is of 6, including himself; and it would seem that the market, where Chinese traffic, is much used. There are children in both families.

The returns gave date, the vegetable or vegetables by their vernacular names, the amount that was brought into the kitchen and the way in which it was prepared. Recording began on 1st November, 1946 and was continued until 31st March, 1948, i.e. over seventeen months. As the list below shows more than 100 different materials were used. I have arranged them by the amounts of each that were used. The reader will note, probably with surprise, the high place that some outside his experience take. The different circumstances of the two households appears here and there. The first householder ate the wild *Ipomoea reptans* which has a rose pink flower; but the second ate rather freely the white flowered form cultivated by the Chinese, i.e. he bought it in the market. The first frequently ate the introduced American *Limnocharis flava* which has become common where he lives; but the second did not eat it; instead he ate more Amaranths. The first liked to eat the Okro, *Hibiscus esculentus;* but the second did not. The first had resort to the powerful flavour of *Parkia speciosa, Pithecellobium jiringa* and *Paederia foetida.* To obliterate individual preferences would require a large investigation; this the reader will note.

The list arranged by the amounts used:—

GROUP 1; more than 100 lb. of each of these was used.

1, terminal buds of banana inflorescences, *Musa sapientum* L., chiefly of the race 'pisang awak' which though not the most tasty is the commonest; served in various ways, but chiefly in a piquant curry.

2, nearly ripe fruits of the Egg-plant, *Solanum melongena* L., 'tĕrong', in several races; served as a rule in a piquant curry and always served cooked.

3, nearly ripe cucumbers, *Cucumis sativus* L., 'mĕntimun'; in two or three races; usually eaten uncooked and often in a salad.

GROUP 2; between 50 and 100 lb. of each used.

4, stem-tubers and petioles of the aroid, *Colocasia esculentum* Schott., 'kĕladi', in several races; almost always eaten curried.

5, fresh leaves of the fern *Diplazium esculentum* Sw., 'paku tanjong' or 'p. panjang' or 'paku' tout court; served raw or cooked, but more usually raw than cooked.

6, banana fruits in various stages of immaturity, *Musa sapientum* L.; served as a rule in a piquant curry; but sometimes in mixed vegetables.

7, flowering shoots and shoots just after flowering with their immature fruits of *Artocarpus heterophylla* Lamk., 'nangka'; eaten in salad or in a piquant curry.

8, pineapple fruits, *Ananas comosus* Merr., 'nanas', in two or three different races; served usually in a salad, or stewed or in a mixed curry.

9, vegetative parts of *Ipomoea reptans* Poir., 'kangkong', both the pink flowered wild plant and the white flowered cultivated plant or 'k. puteh'; eaten cooked, usually soused.

10, legumes of *Vigna sinensis* Savi, 'kachang panjang'; almost always eaten cooked, generally in curry; and available at all seasons.

11, tubers of the Sweet potato, *Ipomoea batatas* Lamk., 'kĕledek', in two or more races; eaten as a rule either curried or cooked with a little oil.

GROUP 3, of each of which between 40 and 50 lb. were eaten.

12, seedlings, 3–4 days old, of *Vigna sinensis* Savi,—a food adopted from the Chinese and called 'tauge'. *Vigna sinensis* is used locally; elsewhere other pulses are germinated to give 'tauge kasar' or coarse tauge.

13, fresh growth of the palustral American alien *Limnocharis flava* Buchenau, known locally as 'paku rawan' as if it were a fern; eaten soused, with a sweet sauce.

14, new leafy shoots of *Sauropus androgynus* Merr., 'asin-asin' or 'nĕnasin' or 'chĕkur manis', plentiful wild as well as in cultivation; eaten cooked in various ways, undoubtedly a stand-by from the remotest times.

15, seedlings, 3–4 days old, of *Phaseolus aureus* Roxb., almost invariably of a green-seeded race, 'tauge halus'; cooked in various ways, commonly fried or in a piquant curry.

16, vegetative parts of *Hydrocotyle asiatica* L. (Centella asiatica *Urban*), 'pĕgaga', obtained wild; generally eaten in salads.

17, ripening gourds of *Momordica charantia* L., 'pĕria gading' or 'pĕria katak', etc., bitter but not unpleasantly so; usually eaten in a piquant curry; sometimes fried; very rarely eaten raw.

18, ripening gourds of *Luffa acutangula* Roxb., 'pĕtola gĕlugor' or 'p. bĕlimbing', in two or three races; usually eaten in a piquant curry.

19, cabbage, *Brassica oleracea* L., var. *capitata* L., 'sayur kobeh' or 'lobak kobeh', both home-grown and imported from Java; usually served in a piquant curry, but not seldom fried.

20, fruits of Okro, *Hibiscus esculentus* L., 'kachang bindi' or 'k. lendir' or 'k. tandok kambing"; served boiled or fried, in mixed vegetables or in a piquant curry.

21, ripening gourds of *Benincasa cerifera* Savi, 'labu lĕmak'; eaten in a piquant curry (*see* also no. 54).

GROUP 4, of each of which between 20 and 40 lb. were eaten.

22, potatoes, *Solanum tuberosum* L., 'ubi gantang', chiefly imported from Java; served as a rule in a piquant curry.

23, leaves of Chinese Chives, *Allium odorum* L., 'kuchai'; served either in a piquant curry or fried.

24, pumpkins, both *Cucurbita pepo* DC. and *Cucurbita moschata* Duchesne, 'labu manis' and 'l. bĕrtukal',

frequently 'labu' tout court; eaten in a piquant curry.

25, green chillies, *Capsicum anuum* L., 'chabai muda'; served as a rule in a pickle and commonly with cucumbers.

26, legumes of the French bean, *Phaseolus vulgaris* L., 'kachang bin' or 'k. pin' or 'k. bunchis' or 'k. munchis'; served in a piquant curry or in mixed vegetables.

27, all the tender parts of the papaya tree, *Carica papaya* L., flowering shoots, and fruits of all ages in more than one race, 'bětek'; the tenderest parts often raw in a salad, but more frequently cooked before use.

GROUP 5, of each of which 10 to 20 lb. were eaten.

28, pods of *Parkia speciosa* Hassk., 'pětai'; usually eaten raw.

29, fresh leaves of the Aroid, *Lasia spinosa* Thwaites, 'gĕgĕli' or 'kĕladi gĕgĕli' or 'paku gĕgĕli'; served after the prickles have been scraped off in curries which they acidify pleasantly.

30, the stem-bud or cabbage of the Coconut palm, *Cocos nucifera* L., 'umbut nyior'; served as a rule in a piquant curry.

31, leafy shoots of *Sesbania grandiflora* Pers., 'gĕti'; served in piquant curry.

32, leafy parts of Amaranths, *Amaranthus* spp., 'bayam', distinguished as red and as green; almost always eaten in a piquant curry.

33, new shoots and flowering tops of *Phaeomeria speciosa* Koord., 'kantan'; available twice in the year; eaten raw or in a piquant curry.

34, leaves of an onion, *Allium fistulosum* L., 'jambak'; served fried or, but more rarely, in a piquant curry.

35, a seasonal toadstool, *Collybia albuminosa* Petch, 'chĕndawan busut'; served with piquant flavourings.

36, flushes of the fern *Stenochlaena palustre* Bedd., of which Professor Holttum says there are more than one flush in the year,—'paku midin'; usually served in a sweet curry.

37, bamboo shoots, chiefly those of *Dendrocalamus asper* Backer; served pickled or in a piquant curry.

38, fruits of the wild species of *Solanum, S. torvum* Sw., *S. indicum* L., and *S. verbascifolium* L., 'tĕrong rimbong', 't. asam' and 't. pipit', etc.; cooked in various ways.

39, a fungus called 'chĕndawan tali'; served as a rule with a sweet sauce.

40, fruits of *Pithecellobium jiringa* Prain, 'buah jĕring'; eaten uncooked, but after a long preliminary soaking. There is only one season in the year.

41, the Hymenomycete fungus *Lentinus subnudus* Berkel., 'chĕndawan puteh' or 'ch. puteh mata'; served in piquant or sweet curries.

42, immature fruits of *Artocarpus integra* Merr. (A. chempeden Spreng), 'chĕmpĕdak', for which there are two seasons in the north of the Peninsula, though one only in the south; served as a rule in a piquant curry, but sometimes in a sweet curry, or sometimes fried, and cooked in other ways.

43, radishes, the tubers of the large variety of the radish, *Raphanus sativus* L., raised from seed imported from China, 'lobak'; served in a piquant curry.

44, the stem-bud or cabbage of the rattan, *Daemonorhops* sp., 'umbut rotan gĕtah'; served in a piquant curry.

45, inner parts of petioles of *Colocasia gigantea* Hook. f., 'kĕladi lambok', a plant which while not uncommon wild in some parts of the Peninsula is in a somewhat dwarfed form in Perak gardens (teste Mr. Allen). Its preparation for eating needs much care; but when the inedible parts have been cut away, that which is left is eaten raw, but is usually served in a piquant curry.

46, very young female side shoots of the Maize, *Zea mays* L., 'putek jagong'; served in a curry, or boiled and mixed with other vegetables.

47, radish leaves, *Raphanus sativus* L., (cf. No. 43 above), 'lobak sawi'; served fried or in a piquant curry.

48, vegetative parts of a Chinese cabbage, *Brassica chinensis* L., 'kobeh china' or 'sawi puteh'; eaten fried or curried.

49, the Hymenomycete fungus *Schizophyllum commune* Fries, which is never out of season, 'chĕndawan sisir' or 'ch. kukor'; eaten in curry and commonly associated with prawns.

50, flushes of the tree *Pterococcus corniculatus* Pax & K. Hoffm., 'pĕpina'; served as a rule with a sweet sauce.

51, new shoots of the Sweet cassava, *Manihot utilissima* Pohl, 'pokok ubi kayu'; never served uncooked, frequently curried.

52, legumes of *Dolichos lablab* L., 'kachang sĕpat'; served in curry.

53, stem-bud or cabbage of the palm *Caryota mitis* Lour., 'umbut dudur'; eaten soused or in a piquant curry.

54, extremely young gourds of *Benincasa cerifera* Savi, (cf. No. 20 above), locally called 'buah kuchi'; eaten in a piquant curry.

55, onions, imported from India or Java, *Allium cepa* L., 'bawang'; eaten in mixed vegetables.

56, fruits of *Spondias cytherea* Sonn., 'kĕdondong'; but the name is not restricted to this fruit tree; eaten as a relish.

57, legumes of *Cajanus indicus* Spreng., 'kachang parpu'; eaten as a rule in curry or in mixed vegetables.

58, flushes and young fruits of *Barringtonia* sp., such as are recurrent in rainy weather, 'pokok putat'; eaten as salad.

59, new shoots of *Claoxylon longifolium* Miq., 'puchok salang' or 'sayur salang'; eaten soused for their pleasantly acid flavour.

60, fresh fronds of the fern *Helminthostachys zeylanica* Hook. f., 'paku tunjok langit' or 'p. payang'; eaten as a rule in a sweet curry.

61, immature durian fruits, *Durio zibethinus* L.; eaten in a piquant curry.

62, legumes of *Psophocarpus tetragonolobus* DC.; 'kachang kĕlisa'; usually eaten in curried mixed vegetables, and sometimes uncooked.

63, young leaves of the Cashew nut tree, *Anacardium occidentale* L., 'pokok janggos'; eaten raw.

64, the stem-bud or cabbage of the Betel palm, *Areca catechu* L., 'umbut pinang'; eaten curried with a piquant sauce.

65, stem ends of the Pumpkin, *Cucurbita pepo* DC., 'puchok labu bĕrtukal'; served soused.

66, immature mango fruits, *Mangifera indica* L., 'mangga muda'; made up into appetizers.

67, new leaves of *Monochoria vaginalis* Presl, 'kĕladi agas'; eaten curried and soused and with a sweet sauce, or sometimes fried.

68, shoots of *Piper sarmentosum* Roxb., 'daun kadok'; served soused.

69, rhizomes of *Curcuma mangga* Val. & van Zyp., 'tĕmu pauh'; usually eaten raw.

70, vegetative parts of *Gynura malasica* Ridl., 'sawi enggang' (a name of varying application); eaten raw.

71, the stem-bud or cabbage of the palm *Oncosperma horrida* Scheff., 'umbut bayas'; eaten in a piquant curry.

72, the whole plant of *Marsilea minuta* L., a small but not minute plant of ditches, 'daun kĕmani' or 'd. sĕmangga'; eaten fried or soused.

73, flushes of *Premna foetida* Reinw., 'buas-buas'; eaten soused.

74, new leaves of *Clerodendron serratum* Spreng., 'daun timba tasek' (a name otherwise applied elsewhere); the sour leaves as a flavouring.

75, legumes of one of the segregates of *Mucuna utilis* Wall., possibly the subsp. *M. aterrima* Holland, 'kachang pisang'; eaten curried, but after a preliminary boiling and the throwing away of the water used.

76, immature fruits of the Bread-fruit tree, *Artocarpus communis* Forst., its seeded variety, 'kĕlur'; eaten in a piquant curry.

77, pulse of the Indian Mung, *Phaseolus aureus* Roxb., 'kachang hijau'; mixed into a vegetable curry.

78, flushes of *Morinda elliptica* Ridl., 'mĕngkudu hutan' or 'm. kĕchil'; eaten soused.

79, leaves of *Curcuma zedoaria* Roscoe, 'kenchur'; eaten raw.

80, gourds of the Snake gourd, *Trichosanthes anguina* L., 'pĕtola ular'; eaten in various ways that mask the bitterness.

81, leaves of *Paederia foetida* L., 'sĕkĕntut'; eaten raw though its objectionable smell is dispersed if cooked.

82, young gourds of *Luffa cylindrica* Roem. (L. aegyptica Roxb.), 'pĕtola manis' or 'p. buntal'; eaten cooked, usually with a piquant sauce.

83, the stem-bud or cabbage of the Sugar palm, *Arenga pinnata* Merr., 'umbut kabong'; eaten in a piquant curry.

84, the fungus known as 'chĕndawan tiong'; eaten soused with a sweet sauce.

85, immature coconut, *Cocos nucifera* L., 'kĕlapa muda'; eaten as a direct supplement to the rice and mostly in a piquant curry.

86, immature fruits of *Passiflora foetida* L., 'buah lĕtup'; eaten with other vegetables, often raw.

87, rhizomes of the Sacred Lotus, *Nelumbium nelumbo* Druce, 'tĕratai' (a name elsewhere applied to Nymphaea); eaten with some convenient acid flavouring.

GROUP 6, plants of which less than 10 lb. were used.

88, tomatoes, *Lycopersicum esculentum* Mill., 'tĕrong bĕlanda'; eaten boiled.

89, leaves of *Pluchea indica* Less., 'bĕluntas'; eaten raw.

90, ripe fruit of *Mangifera foetida* Lour., 'macham' or 'machang'; eaten in very highly seasoned mixtures.

91, seeds of the Para rubber tree, *Hevea brasiliensis* Muell.-Arg., prepared with care by killing them with hot water and then allowing fermentation to follow, a tedious and elaborate process, 'biji pokok gĕtah'; served in a piquant curry.

92, young leaves of *Eugenia aquea* Burm., 'daun jambu ayer', available at two seasons of the year; eaten raw.

93, vegetative parts of a chinese Rape, a form of *Brassica rapa* L., locally called 'sawi pĕkan' and in cantonese 'choy sam' and 'choy sam fah'; eaten in a piquant curry.

94, acid fruits of a wild grape, *Vitis* sp., 'buah lakum'; eaten in curry.

95, leaves of *Cosmos caudatus* H. B. & K., 'ulam rajah'; eaten raw.

96, flushes of *Leucaena glauca* Benth., 'pĕtai-pĕtai jawa'; eaten in curry.

97, leaves of an undetermined plant called 'jarak lang'; eaten cooked.

98, new shoots and young fruits of *Gnetum gnemon* L., 'bĕlinjau'; eaten boiled and with a piquant sauce.

99, young shoots of *Melochia corchorifolia* L., 'lĕmak kĕtam" (but the name is variously applied in the Peninsula) ; eaten in a piquant curry.

100, pickled shoots of *Cleome ciliata* Sch. & Thonn., 'jĕrok maman'; soused before eating and eaten with a piquant sauce.

101, dried Liliaceous flowers, chiefly of *Hemerocallis flava* L., 'bunga kim-chem china'; eaten cooked in a piquant sauce.

102, peanuts, *Arachis hypogaea* L., prepared as 'timpil', i.e. crushed and partly fermented; eaten in a piquant curry.

103, young leaves of *Oroxylon indicum* Vent., 'bonglai'; eaten soused.

104, leaves of *Pouzolzia zeylanica* Benn., 'kĕrĕmak' (a name not strictly applied) ; eaten usually fried and in mixed vegetables.

105, fresh shoots of a *Mussaenda*, probably *M. glabra* Vahl., 'akar kait-kait'; eaten raw.

106, young leaves of *Evodia roxburghiana* Benth., 'daun tĕnggek burong' or 'mĕdang kĕtewang' (the names not strictly applied) ; eaten raw for an acidity which they impart.

107, leaves of an unidentified plant called 'sakanting-sakanting'; served fried.

108, side shoots of Citronella grass, *Cymbopogon citratus* Stapf, the race called 'sĕrai sayur'; eaten raw.

109, flushes of a fig, *Ficus* sp., similar to *F. variegata* Blume, 'kĕlĕpong', a name used for several species; eaten raw.

110, shoots of a forest shrub called 'sĕntang'; eaten raw.

A BOTANICAL INDEX

Allium, bulbs, 34, 35; chives, 23.
Amaranthus 32.
Anacardium 63.
Ananas 8.
Arachis 102.
Areca 64.
Arenga 83.
Artocarpus 7, 42, 76.
Barringtonia 58.
Benincasa 21, 54.
Brassica, cabbage 19; Chinese 48, 93.
Cajanus 57.
Capsicum 25.
Carica 27.
Caryota 53.
chandawan tali 39; ch. tiong 84.
Claoxylon 59.
Cleome 100.
Clerodendron 74.
Cocos, cabbage 30; nut 85.
Collybia 35.
Colocasia esculentum 4; gigantea 45.
Cosmos 95.
Cucumis 3.
Cucurbita fruits 24; shoots 65.
Curcuma 69, 79.
Cymbopogon 108.
Daemonorhops 44.
Dendrocalamus 37.
Diplazium 5.
Dolichos 52.
Durio 61.
Eugenia 92.
Evodia 106.
ferns 5, 36, 60.
fern ally 72.
Ficus 109.
fungi 35, 39, 41, 49, 84.
Gnetum 98.
gourds 3, 17, 18, 21, 24, 54, 80, 82.
Gynura 70.
Helminthostachys 60.
Hemerocallis 101.
Hevea 91.
Hibiscus 20.
Hydrocotyle 16.
imports 19, 22, 55, 101.
Ipomoea reptans 9; Sweet potato 11.
jarak lang 97.
Lasia 29.
legumes 10, 26, 52, 57, 62, 75.
Lentinus 41.
Leucaena 96.
Limnocharis 13.
Luffa 18, 82.
Lycopersicum 88.
Mangifera foetida 90; indica 66.
Manihot 51.
Marsilea 72.
Melochia 99.
Momordica 17.
Monochoria 67.
Morinda 78.
Mucuna 75.
Musa, fruits 6; vegetative 1.
Mussaenda 105.
Nelumbium 87.
Oncosperma 71.
Oroxylon 103.
Paederia 81.
palm cabbages 30, 44, 53, 64, 71, 83.
Parkia 28.
Passiflora 86.
Phaeomeria 33.
Phaseolus, legumes 26; pulse 77; seedlings 15.
Piper sarmentosum 68.
Pithecellobium 40.
Pluchea 89.
Pouzolzia 104.
Premna 73.
Psophocarpus 62.
Pterococcus 50.
pulse 77.
Raphanus, leaves 47; tubers 43.
sakanting-sakanting 107.
Sauropus 14.
Schizophyllum 49.
seedlings of Leguminosae 12, 15.
Sesbania 31.
Solanum melongena 2; tuberosum 22; wild 38.
Spondias 56.
Stenochlaena 36.
Trichosanthes 80.
Vigna, legumes 10; seedlings 12.
Vitis 94.
Zea 46.

When the returns are analysed by the countries of origin of the various plants this result is obtained:—

from species wild in Malaya	16 per cent
from species brought into cultivation in Indo-China or Malaysia and therefore resources of the Austronesians over and above the resources of the Negritos ..	30 per cent
from species which in the course of time came to Malaya by contacts direct or indirect with India and China ..	23 per cent
from species of origin in the remoter parts of the Old World, Africa for instance, which reached Malaya after long diffusion	12 per cent
from species of American origin which were brought to Malaya after 1500 A.D.	18 per cent

Within the 16 per cent indigenous, 5·6 per cent was by resort to ferns and 2·6 per cent to fungi.

The figures are an illustration how far food-gathering has been displaced by food raising and how impossible survival would be to these, my Malay friends, should they be compelled to attempt to find food for themselves in the jungle. To live on it is not possible; food-habits cannot be put back the distance required.

There are two stages in the building up of a feeding system: the first is the adoption for eating and the second the adoption of measures to secure the supply,—domestication, protection and cultivation. The Malays have adopted some of the chinese cultivated plants for eating without taking the further step to adopting them for cultivation. To European readers who are in a very similar position, the preferences as shown by the quantities eaten will seem strange. Individual habit lies deep in that; and the order would differ in another investigation. This one has been on a scale quite inadequate for more than to suggest a line of enquiry.